

PATENT COOPERATION TREATY

PCT

INTERNATIONAL PRELIMINARY REPORT ON PATENTABILITY (Chapter I of the Patent Cooperation Treaty)

(PCT Rule 44bis)

Applicant's or agent's file reference 0180.0054	FOR FURTHER ACTION	See item 4 below
International application No. PCT/US2004/004161	International filing date (<i>day/month/year</i>) 10 February 2004 (10.02.2004)	Priority date (<i>day/month/year</i>) 11 February 2003 (11.02.2003)]
International Patent Classification (IPC) or national classification and IPC 7 F16D 1/00		
Applicant THE REGENTS OF THE UNIVERSITY OF CALIFORNIA		

1. This international preliminary report on patentability (Chapter I) is issued by the International Bureau on behalf of the International Searching Authority under Rule 44 bis.1(a).
2. This REPORT consists of a total of 5 sheets, including this cover sheet.

In the attached sheets, any reference to the written opinion of the International Searching Authority should be read as a reference to the international preliminary report on patentability (Chapter I) instead.

3. This report contains indications relating to the following items:

<input checked="" type="checkbox"/> Box No. I	Basis of the report
<input type="checkbox"/> Box No. II	Priority
<input type="checkbox"/> Box No. III	Non-establishment of opinion with regard to novelty, inventive step and industrial applicability
<input type="checkbox"/> Box No. IV	Lack of unity of invention
<input checked="" type="checkbox"/> Box No. V	Reasoned statement under Article 35(2) with regard to novelty, inventive step or industrial applicability; citations and explanations supporting such statement
<input type="checkbox"/> Box No. VI	Certain documents cited
<input checked="" type="checkbox"/> Box No. VII	Certain defects in the international application
<input type="checkbox"/> Box No. VIII	Certain observations on the international application
4. The International Bureau will communicate this report to designated Offices in accordance with Rules 44bis.3(c) and 93bis.1 but not, except where the applicant makes an express request under Article 23(2), before the expiration of 30 months from the priority date (Rule 44bis .2).

The International Bureau of WIPO 34, chemin des Colombettes 1211 Geneva 20, Switzerland	Date of issuance of this report 12 August 2005 (12.08.2005)
Facsimile No. +41 22 740 14 35	Authorized officer <div style="text-align: center; font-weight: bold;">Dorothee Mülhausen</div> Telephone No. +41 22 338 87 40

Form PCT/IB/373 (January 2004)

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PATENT COOPERATION TREATY

From the
INTERNATIONAL SEARCHING AUTHORITY

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REC'D 07 JAN 2005

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To:
DAVID J. OLDENKAMP
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SANTA MONICA, CA 90401

WRITTEN OPINION OF THE INTERNATIONAL SEARCHING AUTHORITY

(PCT Rule 43bis.1)

Applicant's or agent's file reference 0180-0954		Date of mailing (day/month/year) 05 JAN 2005 FOR FURTHER ACTION See paragraph 2 below
International application No. PCT/US04/04161	International filing date (day/month/year) 10 February 2004 (10.02.2004)	Priority date (day/month/year) 11 February 2003 (11.02.2003)
International Patent Classification (IPC) or both national classification and IPC IPC(7): F16D 1/00 and US Cl.: 403/282		
Applicant THE REGENTS OF THE UNIVERSITY OF CALIFORNIA		

1. This opinion contains indications relating to the following items:

- ☒ Box No. I Basis of the opinion
- ☐ Box No. II Priority
- ☐ Box No. III Non-establishment of opinion with regard to novelty, inventive step and industrial applicability
- ☐ Box No. IV Lack of unity of invention
- ☒ Box No. V Reasoned statement under Rule 43bis.1(a)(i) with regard to novelty, inventive step or industrial applicability; citations and explanations supporting such statement
- ☐ Box No. VI Certain documents cited
- ☒ Box No. VII Certain defects in the international application
- ☐ Box No. VIII Certain observations on the international application

2. FURTHER ACTION

If a demand for international preliminary examination is made, this opinion will be considered to be a written opinion of the International Preliminary Examining Authority ("IPEA") except that this does not apply where the applicant chooses an Authority other than this one to be the IPEA and the chosen IPEA has notified the International Bureau under Rule 66.1bis(b) that written opinions of this International Searching Authority will not be so considered.

If this opinion is, as provided above, considered to be a written opinion of the IPEA, the applicant is invited to submit to the IPEA a written reply together, where appropriate, with amendments, before the expiration of 3 months from the date of mailing of Form PCT/ISA/220 or before the expiration of 22 months from the priority date, whichever expires later.

For further options, see Form PCT/ISA/220.

3. For further details, see notes to Form PCT/ISA/220.

Name and mailing address of the ISA/ US Mail Stop PCT, Attn: ISA/US Commissioner for Patents P.O. Box 1450 Alexandria, Virginia 22313-1450 Facsimile No. (703) 305-3230	Authorized officer Michael P. Ferguson <i>Sen Dhlh for</i> Telephone No. (703)308-1114
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Form PCT/ISA/237 (cover sheet) (January 2004)

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**WRITTEN OPINION OF THE
INTERNATIONAL SEARCHING AUTHORITY**

International application No.

PCT/US04/04161

Box No. I Basis of this opinion

1. With regard to the language, this opinion has been established on the basis of the international application in the language in which it was filed, unless otherwise indicated under this item.

- ☐ This opinion has been established on the basis of a translation from the original language into the following language _____ which is the language of a translation furnished for the purposes of international search (under Rules 12.3 and 23.1(b)).

2. With regard to any nucleotide and/or amino acid sequence disclosed in the international application and necessary to the claimed invention, this opinion has been established on the basis of:

a. type of material

- ☐ a sequence listing
☐ table(s) related to the sequence listing

b. format of material

- ☐ in written format
☐ in computer readable form

c. time of filing/furnishing

- ☐ contained in international application as filed.
☐ filed together with the international application in computer readable form.
☐ furnished subsequently to this Authority for the purposes of search.

3. ☐ In addition, in the case that more than one version or copy of a sequence listing and/or table relating thereto has been filed or furnished, the required statements that the information in the subsequent or additional copies is identical to that in the application as filed or does not go beyond the application as filed, as appropriate, were furnished.

4. Additional comments:

WRITTEN OPINION OF THE
INTERNATIONAL SEARCHING AUTHORITY

International Application No.
PCT/US04/04161

Box No. V Reasoned statement under Rule 43 bis.1(a)(i) with regard to novelty, inventive step or industrial applicability; citations and explanations supporting such statement

1. Statement

Novelty (N)	Claims <u>NONE</u>	YES
	Claims <u>1-6, 9-16, 20</u>	NO
Inventive step (IS)	Claims <u>7, 8, 17, 18</u>	YES
	Claims <u>1-6, 9-16, 20</u>	NO
Industrial applicability (IA)	Claims <u>1-18, 20</u>	YES
	Claims <u>NONE</u>	NO

2. Citations and explanations:

Claims 1-5, 9-15 and 20 lack novelty under PCT Article 33(2) as being anticipated by Lortz et al. (US 5,722,709). Lortz et al. teach the claimed system for releasable engagement of two bodies, including a first body comprising an engagement surface comprising a pseudo-elastic material capable of conversion between an austenite state and a martensite state by application of stress to the first body at the engagement surface; a second body comprising an indenter surface being formed by teeth that extend from the second body for engagement with the first body; and an engagement mechanism that provides reversible contact of the indenter surface with the engagement surface and provides for the application of sufficient stress to the engagement surface; wherein the engagement surface surrounds the indenter body.

Claims 1-4, 6, 9-14, 16 and 20 lack novelty under PCT Article 33(2) as being anticipated by Hoffman et al. (US 5,134,812). Hoffman et al. teach the claimed system for releasable engagement of two bodies, including a first body comprising an engagement surface comprising a pseudo-elastic material capable of conversion between an austenite state and a martensite state by application of stress to the first body at the engagement surface; a second body comprising an indenter surface being formed by teeth that extend from the second body for engagement with the first body; and an engagement mechanism that provides reversible contact of the indenter surface with the engagement surface and provides for the application of sufficient stress to the engagement surface; wherein the indenter body surrounds the engagement surface.

Claims 7, 8, 17 and 18 meet the criteria set out in PCT Article 33(2)-(3), because the prior art does not teach or fairly suggest a system for releasable engagement of two bodies wherein the indenter body is a gear and the engagement mechanism is a linear motor.

Claims 1-18 and 20 meet the criteria set out in PCT Article 33(4), and thus have industrial applicability because the system claimed can be made or used in the gear and shafting industry.

**WRITTEN OPINION OF THE
INTERNATIONAL SEARCHING AUTHORITY**

International application No.

PCT/US04/04161

Box No. VII Certain defects in the international application

The following defects in the form or contents of the international application have been noted:

Claims 1 and 20 are objected to under PCT Rule 66.2(a)(iii) as containing the following defect(s) in the form or contents thereof:

Claim 1 (line 1) recites "said apparatus". It should recite --said system--.

Claim 20 (line 2) recites "claim 12". It should recite --claim 11--.